

16 2008 2 1

9 2 2019 9 1

10

30 2015 5 29

80	2015	7	1
----	------	---	---

11

44

				[2015]80	2015	8	19		
23									
			2020	1	2020	5	30		
24									
	[2011]95		2011	7	1				
25									
					[2011]142		2011	7	1
26									
	[2016]8		2016	2	5				
27									
								2019	107
2019	10	28							
	28							341	2021
5	18								
29									
2017	45		2017	12	23				
30						<			
				>		2017	47	2017	12 28
31									
				[2012]144	2012	8	30		
32			<						>
						[2017]22	2017	11	28
33							<		
	>					2017	5	2017	9 13
34									
					[2016]11	2016	7	6	
35									
								2018	21
2018	8	31							

2.

1

GB 156-2021

2

GB 6944

3

GB 12268-2025

4

GB 18218-2018

5

GB 17914-2013

6

GB 5562-2022

7

GB 5052-2014

8

GB 3009-2007

9

GB 156-2021

1

201

GB 156-2021

4

3178-2015

28 1 GB/T30040.1-2013

29 4

GB/T30040.4-2013

30 GB/T21447-2018

31 GB/T35579-2017

32 GB/T34661-2017

33 GB/T 13869-2017

34 AQ 8001-2007

1.2.3.

1 2005 4

2 2002

11

3 2003 7

1.3

1

2

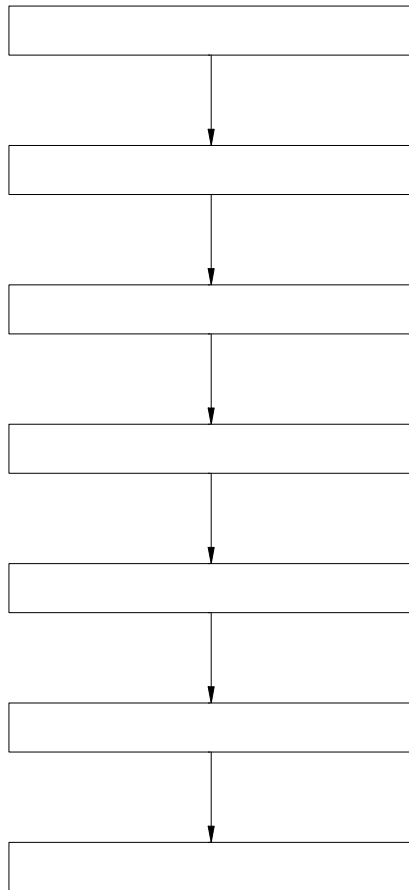
3

4

5

1.4

1-1



1 1

2.

	8		1		3410m ²		
SF	5	1		1		4	3
		1				1	
1							

5	4	30m ³	1	30m ³
		GB50156-2021		3.0.9
		135m ³		

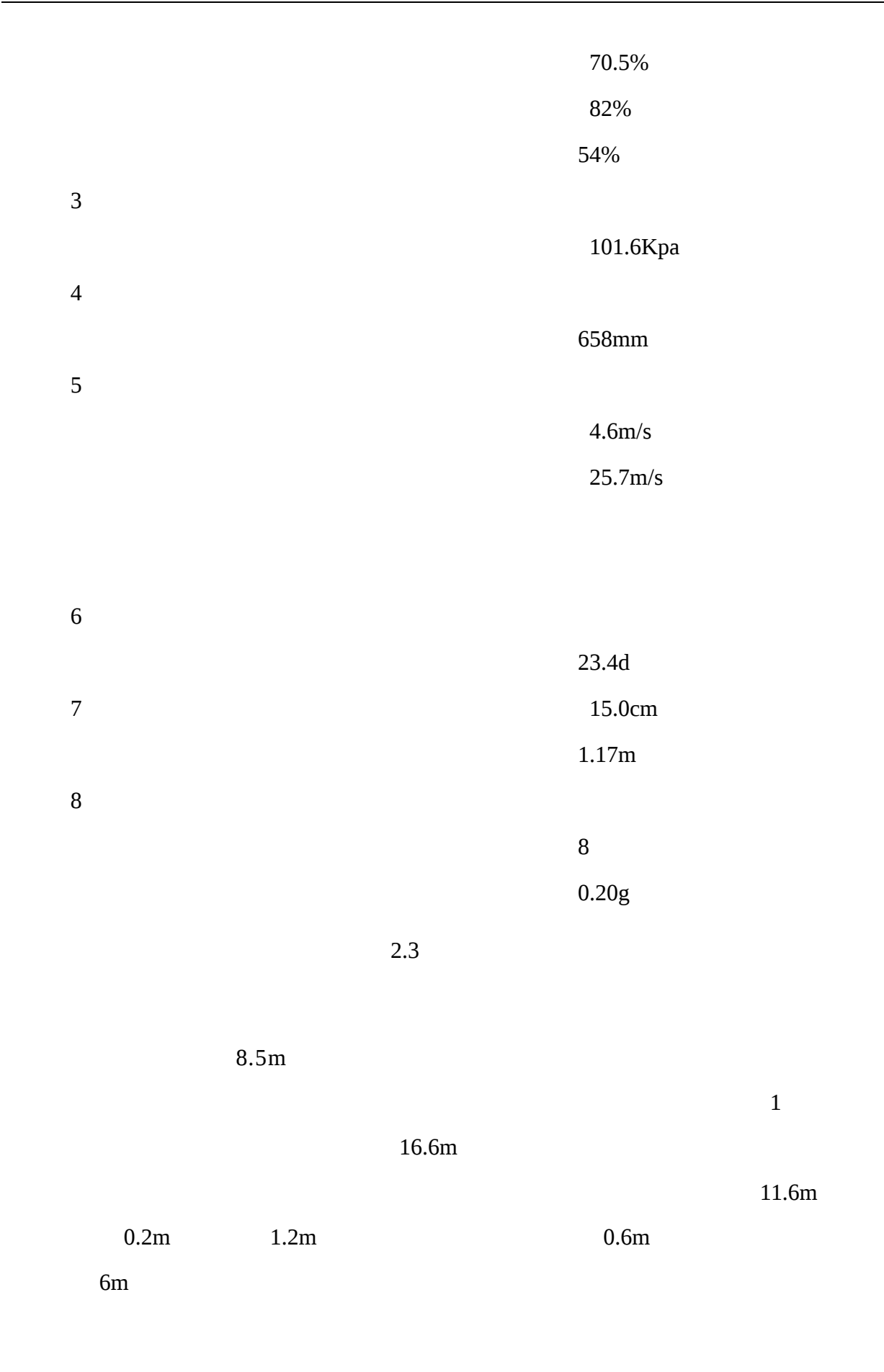
2.1

		27.9m		
	32m	26.9m		
20			23.5m	13.4m

2.2

1		
	8.3	
	35.2	
	-28.2	
	28.2	
	-15.7	

2



8.7m

8.9m

7m

0.6m

0.5m

4

1

4m

2-1

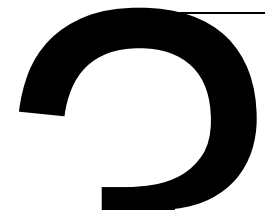
2-1

2-2



2-2

m



2.4

2-3

2-3

9		2	-	-	1
---	--	---	---	---	---

2.5

8

1

2.6

1.0 1.2

2.7

2.7.1

1

91210381765442011M

2023 3 2

2

[2023]100117

2023 5 14

3

LNFYJC/B/TY2025003814

2026 4 17

4

2.7.2

1

2

a. 5

b.

c.

3

4

380/220V

TN-S

UPS

5

5

6

5

8kg

1

8kg

2

5kg

CO₂

8

35kg

2

3m³

7

8

3

4

4m 1

4m



$$\frac{Q_1}{3} + \frac{Q_2 + \dots + Q_n}{3} \leq 60 \quad 3-1$$

3.1.3

23	≤	60	3-1
3-1			
1		200t	
2		5000t	
120m ³ 0.75			
90t	30m ³	0.89	26.7t
S=90/200+26.7/5000=0.45534<1			

3.2

3.2.1

2*	1B	2
1	-	2
1630		

E10	92
95 98 3	=1 0.72 0.775
	=1 3

5

1

30

2

3

1000m³

1

2

()

()

5

Agg. 75% S. 4



3.2.2

3.3

3-2

3-2

1

6			
7			

3.3.1

1

3

4

3.3.2

1

3

3.3.3

3.3.4

3.3.5

3.3.6

4.

4.1

8

1

2

3

4

5

6

7

8

4.2

11

2

8
9
10
11

12
13
14
15
16
17
18
1
2
3

1

1

2

5-3				
1			GB50156-2021 3.0.4	
2	GB50156	3.0.9	GB50156-2021 3.0.9	30m ³
3			GB50156-2021 3.0.25	
4			GB50156-2021 3.0.27	8
1			GB50156-2021 4.0.1	
2			GB50156-2021 4.0.2	
3				

			4.0.4	
	4	GB50156-2021 4.0.12		
	5	GB50156-2021 4.0.13		
	1	GB50156-2021 5.0.1		
	2 6m 4m 8%	GB50156-2021 5.0.2	11.6m 8%	
	3	GB50156-2021 5.0.3		
	4 ” “ “ ” “	GB50156-2021 5.0.5		
	5 3m	GB50156-2021 5.0.6		

	1.2m			
	100mm 1.2m			
	6	GB50156-2021 (5.0.7		
	7	GB50156-2021 5.0.8		
	8 300m ²	GB50156-2021 5.0.9		
	9 4.0.4 “ ”	GB50156-2021 5.0.10		
	10	GB50156-2021 5.0.11		
	11 2.2m 4.0.4 1.5 25m 4.0.4	GB50156-2021 5.0.12		

	12 GB50156 5.0.13-1	GB50156-2021 5.0.13	2-1 2-2	
	13 C	GB50156-2021 5.0.16		

5-4

1	GB50156-2021 6.1.1
2	GB50156-2021 6.1.2
3	
6.1.4 0.08MPa	

	5	$10^9\Omega$ $10^9\Omega$ $A=0.04V_t$	GB50156-2021 6.1.7	SF	
	6.	11.2	GB50156-2021 6.1.8	SF	
	7		GB50156-2021 6.1.9	SF	
	8	$4mm$ $80mm$	GB50156-2021 6.1.10	SF	
	9		GB50156-2021 6.1.11		
	10	$0.5m$ $0.9m$ $0.3m$	GB50156-2021 6.1.12		

11

GB50156-2021
6.1.13

12

GB50156-2021
6.1.14

13

90%

95%

GB50156-2021
6.1.15

14

GB50156-2021
6.1.16

0.8L/h

15

SH 3022

GB50156-2021
6.1.17

SF

1

4

GB50156-2021

6.2.4

5

GB50156-2021

6.2.5

	22	100mm 4mm 200mm 10mm 30mm	GB50156-2021 6.5.3 SF
	23		GB50156-2021 6.5.4
	24	5mm 6.3 5%	GB50156-2021 6.5.5
	25	3.5mm	GB50156-2021 6.5.6 3.5mm

5-5

1
2
1 5kg
6L 2 2 1

		AQ3010-2022 4.4		
	2	AQ3010-2022 4.4		
	3	XF/T 3004-2020 8.1		
	4	XF/T 3004-2020 8.4		

5-6

	1	GB50156-2021 13.1.1		
	2	380/220V GB50156-2021 13.1.2	380/220V	
	3	90min GB50156-2021 13.1.3	90min	

4

GB50156-2021
13.2.6

0.65mm 0.5mm 0.7mm

5

GB50156-2021
13.2.7

6

GB50156-2021
13.2.8

7 380/220V TN

10				
	5		GB50156-2021 13.2.12	
11				
			GB50156-2021 13.2.13	
12				
			GB50156-2021 13.2.14	
13				
100Ω			GB50156-2021 13.2.15	
14				
		1	GB50156-2021 13.2.16	1
1				
			5.0.1	
2				
			5.0.5	

	3	5.0.8		
	1	GB50156-2021 13.5.1		
	2. 1 2	GB50156-2021 13.5.2		
	3.	GB50156-2021 13.5.4		

5-7

1

140kw

2m

	7 B GB50016	GB50156-2021 14.2.11	B	
	8 3h	GB50156-2021 14.2.12		
	9	GB50156-2021 14.2.13		
	10 25m 5.0.13 3.0h	GB50156-2021 14.2.14		
	11	GB50156-2021 14.2.15		
	12	GB50156-2021 14.2.16		
	1	GB50156-2021 14.3.1		



5-8

no " n r

	8	8	0	0
	28	27	0	1
	16	9	0	7
	20	11	0	9
	175	146	0	29

5-9

175

29

146

1

1

8kg

5kg

4

4

35kg

1

2

2

2m³

3m³

5

5

6.

1

2

3

7.

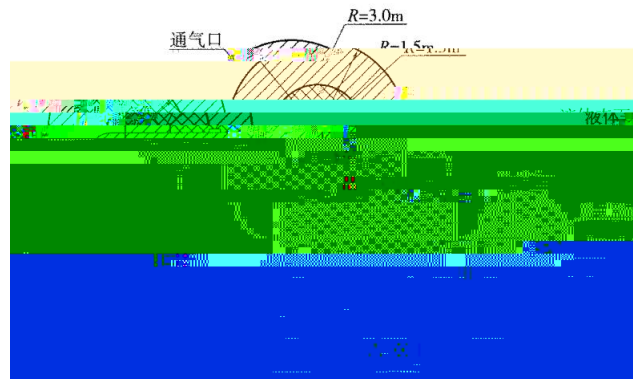
GB50156-2021

3

3.0m

1.5m

2



2

5.

3

1

0

2 ()

1.5m(0.75m)

0.5m

1 ;

3 ()

1.5m

1m

3.0m(2.0m)

1.5m

2 ;

4

1

lm

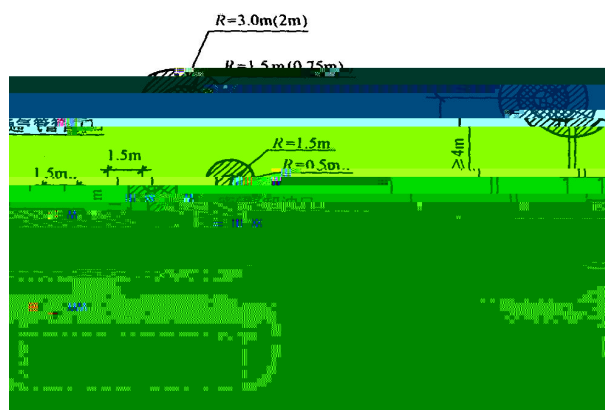
1.5m

2 ;

1

1.5m

2



3

